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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,244	09/05/2006	Hassan Hans Badreddine	3003-1182	9612
466	7590	01/29/2008		
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER UPTON, CHRISTOPHER	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/29/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,244	Applicant(s) BADREDDINE, HASSAN HANS	
	Examiner Christopher Upton	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

1. The specification lacks section headings, and also lacks a reference to the applicant's PCT application.

2. Claims 6 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The use of the term "may" renders the claims vague and indefinite, and further fails to limit their parent claims, as "may" implies an option.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, 6, 7, 11-13 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by German patent 39 16 520.

The German patent discloses a biological treatment system having a treatment chamber with a central airlift column and a lower sludge collection region in communication with a settling chamber, as claimed.

5. Claims 3, 5, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over German patent 39 16 520 in view of Stuth or Crosby.

Claims 3 and 18 differ from the German patent in recitation of an upper screen, while claims 5 and 20 recite buoyant carriers (The German patent does not appear to state whether the carriers are buoyant or not). The use of buoyant carriers, retained by both upper and lower screens, in similar systems is known, as exemplified by Stuth and Crosby. It is therefore submitted that use of a fully retained buoyant carrier in the German patent would have been an obvious substitution of one known carrier for another for one skilled in the art, and therefore fails to patentably distinguish over the German patent.

5. Claims 1, 2, 6 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Yabuuchi and Japanese patent 3-101896.

Yabuuchi and the Japanese patent each disclose a biological treatment system having a treatment chamber with a central airlift column and a lower sludge collection region in communication with a settling chamber, as claimed.

6. Claims 1, 2, 5, 6, 7, 11 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Oshima et al.

Oshima discloses a biological treatment system having a treatment chamber (3) having a floating carrier (16) with a central airlift column and a lower sludge collection region in communication with a settling chamber, as claimed.

7. Claims 3, 4, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima.

Claims 3, 4, 18 and 19 recite upper and lower screens. While not clearly labeled by Oshima, these elements obviously appear to be shown in figure 1, as there are lines depicted above and below the carrier.

8. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sanyal, Choun, and German patents 196 33 629 and 35 16 617.

Sanyal, Choun and the German patents each disclose water treatment plants having a spherical carrier with a bore, as claimed.

9. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Jager, Hoon, Ikawa and Hackenjos.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jager, Hoon, Ikawa and Hackenjios.

Jager, Hoon, Ikawa and Hackenjios each disclose packing elements in the form of a sphere with a bore, as recited in claim 16. While the disclosed preferred use of each is not a water treatment plane, it is submitted that these carriers may obviously be used for such a purpose, as any known packing element may obviously be used for such a purpose.

10. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over German patent 39 16 520 or Oshima, each in view of Jager, Hoon, Ikawa, Hackenjios Sanyal, Choun, or German patents 196 33 629 and 35 16 617.

Claims 8-10 differ from Oshima and the German '520 patent in recitation of the carriers being in the form of spheres with bores and a textured or patterned surface. Since such packing elements are known, as exemplified by the secondary references, it is submitted that their use in the devices of the German '520 patent or Oshima would have been an obvious substitution of one known packing and carrier element for another for one skilled in the art. Note that, while Oshima discloses the use of corrugated sheets, this is given as an example only, and therefore, obviously other known carriers may be substituted.

11. Claims 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The recitation of a waste water treatment system having a treatment chamber with carrier elements and a central vertical airlift column above a sludge collection region, wherein the sludge collection region is connected at its lower end with an annular settling chamber with a lower aerator, which is further connected at its lower end to a further settling chamber patentably distinguishes over the prior art of record.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other references of interest include Pannier, Kato, Struewing, Singer and Lunt.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Upton whose telephone number is 571-272-1169. The examiner can normally be reached on 8:30-6:00, off every other Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, consisting of a stylized 'C' followed by a series of loops and a final upward stroke.

Christopher Upton
Primary Examiner
Art Unit 1797